DOCUMENT RESUME

ED 301 331 PS 017 648

AUTHOR Blakemore, Judith E. Owen
TITLE Gender Differences in Children's Nurturant Interactions with Their Infant Siblings.
PUB DATE Aug 88
NOTE 33p.; Paper presented at the Annual Meeting of the American Psychological Association (Atlanta, GA, August 12-16, 1988).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Antisocial Behavior; *Infants; *Mothers; Parent Child Relationship; Parent Influence; Prosocial Behavior; *Sex Differences; Sex Role; *Socialization; *Young Children
IDENTIFIERS *Nurturance; *Sibling Care

ABSTRACT

The research focused on the exploration of gender differences in interaction with infant siblings in the home and the maternal socialization of baby care in girls as opposed to boys. Observations were made of 20 families, each with 2 parents, an infant under the age of 12 months, and an older child between the ages of 46 and 102 months. Five families were selected from each of the four possible sibling pairings (e.g., older sister-younger brother, etc.). The mother, older child, and infant of each family were observed four times at approximately monthly intervals, although only data from the last three observations were reported. The behavior observed in the children was divided into three categories: direct prosocial interactions, indirect prosocial behaviors, and antisocial interactions. Doll play or pretend play was also observed. The maternal behaviors observed were divided into direct maternal socialization of baby care or nurturant behaviors, mothers talking to the child about the baby, and gender relevant statements. The results indicated that girls demonstrated more nurturant interaction with and interest in their baby siblings than did boys. However, the observations indicated that mothers were rarely directly socializing baby care in their children, and there was no indication that daughters were socialized more than sons. The study includes a list of 38 references. (RJC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED301331

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Gender Differences in Children's Nurturant Interactions with their Infant Siblings

Judith E. Owen Blakemore

Indiana University - Purdue University at Fort Wayne

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Judith E. Owen Blakemore
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

PS 016648

Running head: CHILDREN'S NURTURANT INTERACTIONS

Paper presented at the annual meeting of the American Psychological Association, Atlanta, GA, August, 1988.

Abstract

In this study, 20 families with two parents, an infant under the age of 1 year, and one or two older siblings between the ages of 4 and 7 years, were observed in their homes. Each family was observed four times at approximately monthly intervals. Only data from the last three observations were reported.

Two issues were being studied: gender differences in the interactions of the older child with the infant; and maternal socialization of the older child's nurturant interactions with the infant. Older girls interacted more with their infant siblings, particularly in a nurturant manner. There was virtually no evidence of direct maternal socialization of this gender difference.

Gender Differences in Children's Nurturant Interactions with their Infant Siblings

Judith E. Owen Blakemore

Arguably one of the most important classes of gender differentiated behaviors is the behaviors involved in nurturing others, especially infants and young children. In the last decade many researchers have examined how males and females of various ages interact with babies, both their own and those of others.

Several researchers have studied the behavior of mothers and fathers with their own infants. When fathers are observed with their infants during a brief, structured situation, for example during the hospital stay following birth, they are quite capable of interacting adequately with their infants and they behave much like mothers do in the same situation (Parke & O'Leary, 1976; Parke, 1978; Parke & Tinsley, 1981.)

However, more extensive and longitudinal observations, both in the laboratory and in the home have revealed that fathers rarely behave like mothers in the daily world of child care. There are two notable differences in the interactions of fathers and mothers with their babies. First, it has been repeatedly demonstrated that the majority of mother's interactions with their babies involve caretaking, while fathers, at least American fathers, play with their infants (Clarke-Stewart, 1978; Lamb, 1976; 1977; Yogman, 1982). The second point, which has been emphasized recently by several authors, (e.g., Belsky, Gilstrap &

Rovine, 1984; Frodi, Lamb, Hwang & Frodi, 1982), is that fathers are very much less involved with their infants than mothers are. When observing interactions between parent and infant, Frodi and Lamb and their colleagues have found this difference even among non-traditional Swedish families where the father is the infant's primary caretaker (Frodi et al, 1982). They have argued that gender is a better predictor of parental behavior than non-traditional attitudes or primary caretaker status. This is a very important finding, and one that they argue is quite robust.

Other researchers have studied men's and women's behavior toward infants they have never previously met. At this time, all of this research has involved a short period of interaction between an adult and a baby in a laboratory setting. Much of this research has been done by Feldman and Nash and their colleagues (Feldman & Nash, 1978; 1979a; 1979b; Feldman, Nash & Cutrona, 1977; Nash & Feldman, 1980; 1981a; 1981b). Their experimental procedure consists of having a person sit in a "waiting room" with a mother and her baby. The researchers observe the person's interactions with the baby through a one-way glass, and have generally not reported adult women to show more interest in babies than adult men have. The exception is that parents and grandparents have shown gender differences. Mothers and grandmothers of infants have shown heightened interest in unfamiliar babies compared to that shown by other adults. Nash and Feldman argue (1981a) that it is the gender-role demands of various periods during adulthood that determine gender

differences in nurturant behaviors, and that women do not show any special interest in babies except when they themselves are mothers or grandmothers of a baby.

Other research with adults and unfamiliar babies has studied them alone, without the mother present, and has not been consistent with the findings of Feldman and Nash. Blakemore (1981; 1985) has studied nonparent adults interacting with an unfamiliar baby, and has found women to interact with a baby more than men. The gender difference was found even with feminist men and women. It is reasonable to conclude that being alone with the baby is as an important consideration, and requires more interaction with the baby than when the mother is also present.

Since there is reason to believe that in adulthood there is a tendency for women to do more with infants than men do, at least when they are alone with them, it is important to identify when this tendency begins developmentally. Children's interests in and interactions with babies have been studied from the age of 2 years through adolescence. Children and babies have been studied under four conditions: the child with an unfamiliar baby and the baby's mother; the child alone with an unfamiliar baby; the child with a baby sibling and mother; and the child alone with a baby sibling. The presence of gender differences in the child's degree of interest in the baby has depended on both the situation and the child's age.

Researchers who have studied interactions between a child and an unfamiliar baby when the baby's mother is present, have

usually made their observations in a "waiting room" situation. These researchers have generally found equivalent amounts of interaction between boys and the baby as compared to girls and the baby during the preschool years, but more interaction on the part of girls during older childhood and adolescence (Feldman et al., 1977; Feldman & Nash, 1979a; Frodi & Lamb, 1978; Nash & Feldman, 1981; Melson & Fogel, 1982; Zahn-Waxler, Friedman & Cummings, 1983).

Other studies (Berman & Goodman, 1984; Berman, Monda & Myerscough, 1977; Berman, Smith & Goodman, 1983; Blakemore, 1981; 1983) have observed children alone with a baby, or interacting with a baby in the children's day-care centers without the baby's mother involved in the interaction. All of this research has found more interaction on the part of girls by the late preschool period.

Berman and her colleagues (Berman & Goodman, 1984; Berman et al., 1983) have specifically requested caretaking on the part of children. Under these conditions older preschool girls are particularly likely to show high, sometimes intrusive (Berman, 1983) levels of interaction with the baby while boys are more likely to watch passively.

Several investigators have been exploring sibling interactions in the home and in the laboratory, and have often explored nurturant or caretaking behaviors directed toward infants by their older siblings. Most of this research has observed the siblings in the presence of their mother or father

or both parents. Sometimes gender differences in "nurturant" behavior on the older child's part have been reported (Abramovitch, Corter & Lando, 1979; Abramovitch, Corter & Pepler, 1980; Lamb, 1978b) although not consistently (Dunn & Kendrick, 1981; Lamb, 1978a).

One study of siblings is particularly important here (Stewart, 1983). Stewart observed preschool aged and infant siblings alone, without their parents, in the standard "Strange Situation" (Ainsworth & Wittig, 1969) used to measure attachment behavior. The infants were often distressed and requested care from their siblings. Girls directed much more care to their infant siblings, especially male siblings, than boys did. Stewart noted that they gave the infant more care than the infant requested, while boys gave less than the infant requested. This finding seems quite similar to the intrusive caretaking style described by Berman (1983) with unfamiliar infants. Stewart also comments that offering more care than requested is characteristic of mothers, and offering less care than requested is characteristic of fathers.

It seems clear, then, that a gender difference in interaction with infants is emerging in the late preschool period. At this age and beyond, if a child is alone with a baby, especially if the child is the baby's caretaker, girls do much more with the baby than boys do. This continues into adulthood and is reflected in the behavior of parents, even nontraditional ones, with their own infants, and in the interactions of adults

alone with an unfamiliar baby.

While some have argued that women's higher levels of interaction with babies has biological roots (Hutt, 1972; Rossi, 1985), others have suggested that an equally plausible explanation is that the gender difference is thoroughly learned during early childhood socialization and thereby becomes quite resistant to later modification (Frodi et al., 1982).

Many recent theoretical writings on the topic of gender-role development have argued that it is absolutely essential to look in the child's naturally occurring environment to find the important influences on gender typical behavior (e.g., Cahill, 1983; Constantinople, 1979). Following that advice, the research reported here consisted of such naturalistic observations.

In this research two basic issues were examined. First, the study continued to examine the degree to which girls are more involved in and interested in child care in the home. Secondly, the study examined direct maternal influences on the early learning of child care behaviors.

Method

Subjects

Twenty families with two parents, an infant under the age of 12 months, and an older child between the ages of 46 and 102 months were studied. Five families were selected from each of the four possible sibling pairings (e.g., older sister - younger brother, etc.). Three of the five families in each group were 2-child families, and two families per group were 3-child

families. Only one older sibling in the 3-child families was observed. The mean age of the older child in the four groups varied within a 7-month range (63.6, 64.4, 67.8 and 70.4 months at the second visit). The mean age of the infant at the second visit varied within a 3-month range (4.6, 6.2, 6.8, and 8.2 months). The education of the mothers ranged from high school through M.D. ($\underline{M}$ = 14.55 years), and the same was true of the fathers ($\underline{M}$ = 14.8 years). The fathers worked outside the home an average of 43.2 hours per week, and the mothers 18.95 hours per week. Six of the mothers and one of the fathers were homemakers.

Observers

Five female observers, the principal investigator and four undergraduate students, collected data. Two observers were present at all observations.

Procedure

Observers visited each family for four one-hour observations, spaced at approximately monthly intervals. Since the first visit was to familiarize the family with the procedure, only the data from the last three visits are reported. Two observers visited the home during hours when the mother, the older child and the infant were at home and awake. On some visits the father was present also, but data on fathers are not presented here. The family was encouraged to carry on their normal activity.

The observers sat in a corner of the general living area and attempted to remain in sight or sound of the older child. The

pages of a lined legal pad were divided into three or four columns, one for mother (and one for father, if present) one for older child and a third for describing ongoing activity. The observers wore earphones connected to a tape recorder playing a taped timer indicating 10-second intervals, and announcing the ends of minutes as well as rest intervals. Observers rested for one minute following every fifth minute of observation.

These child target behaviors were coded in shorthand form on the legal pads: Baby care; baby chores (e.g., gets bottle, but doesn't directly interact with baby); plays with baby; doll play or pretend baby play; talks to baby; talks about baby; refuses to interact with baby; and hostile behavior to the baby. These maternal behaviors were recorded: requests nurturant interaction (baby play, care or chores); requests leave baby alone; rewards baby care, etc.; punishes baby care, etc.; talks about baby to child; and any gender relevant statement (e.g., "only girls play with dolls"). If a behavior occurred during a 10-second interval it was recorded. A behavior was recorded only once per 10-second interval. If a behavior began during one interval and continued to the next, it was recorded in both.

If an observer was unsure whether a particular behavior had occurred she placed a "?" beside the code on the data sheet. After each observation the observers met and resolved any discrepancies in coding, producing one data sheet. There were two types of observer disagreements. The first involved one observer recording a particular behavior and the other recording

nothing. The following rules were used to resolve that type of discrepancy: If only one observer recorded a behavior and had placed a "?" beside it, indicating uncertainty, the behavior was not recorded on the final sheet. If the one observer did not place a "?" by the behavior, and therefore was confident she had seen the behavior, it was recorded on the final data sheet.

The other, much rarer, type of disagreement involved two different codes for the same behavior (e.g., plays with baby vs. baby care). Observers used their notes to discuss these disagreements and came to an agreement about which code was to be used on the final data sheet. In the extremely rare event that no agreement could be reached, both codes were recorded.

Following the last observation the mother filled in a brief questionnaire consisting of questions about demographic information, the children's characteristics, their interactions and the encouragement of these interactions. The items concerning the children's characteristics and interactions were rated with a 5-point Likert scale. These questions can be found in Table 1.

Insert Table 1 about here

Results

Inter-Observer Reliability

It is first important to note that there were <u>two</u> observers on all visits, and the data used were the result of an agreement

reached by these observers immediately following the observation. However, 12 independently observed pairs of original protocols were selected to determine inter-observer agreement before the final data sheet was produced. The 12 pairs of protocols were equally balanced among visits (2nd, 3rd or 4th).

There were two types of interobserver disagreement: one observer recording a behavior and the other recording nothing, and both observers recording a behavior but using different codes (e.g., plays with baby vs. baby care). The first type of disagreement was far more common, making up 90% of all disagreements.

Inter-observer reliability was calculated in two ways. First, percentage of agreement per behavior per observation was calculated. This measure is very adversely affected by a disagreement when only a few instances of that behavior take place (e.g., if a behavior occurred twice during an observation, and once one observer noted it and once the other observer noted it, this would produce 0% agreement but identical scores!) Percent agreement per behavior ranged from 0% to 100%. Mean percent agreement was approximately 80%.

Again using the 12 pairs of protocols described above, the second measure of reliability consisted of calculating correlation coefficients based on the 12 pairs of scores for each behavior. When behaviors were frequent enough to meaningfully calculate correlation coefficients, they ranged from .91 to .99.

Gender Differences in Child Behavior

One of the major focuses of this research was gender differences in the behaviors the older child directed to the infant. Each of the eight child behaviors was analyzed using Mann-Whitney U separately for Observation 2, 3 and 4, and for the totals summed across observations.

The behaviors that we observed can be divided into three categories: Direct prosocial interaction (plays with baby, baby care and talks to baby), indirect prosocial interaction (baby chores, and talks about baby), and antisocial interaction (hostility to baby and refuses to interact with baby). One final behavior, doll play or pretend baby play, was also observed. The gender comparisons of the older child's behavior are summarized in Table 2.

Insert Table 2 about here

With respect to the first category of behaviors in Table 2, direct prosocial interaction, in all cases (3 behaviors across 3 observations) the mean frequencies of these behaviors during an observation were higher in girls, however in no case did the differences reach statistical significance.

Considering the second category of behaviors, indirect prosocial behaviors, in 5 of 6 cases involving two behaviors and three observations, girls had higher mean frequencies of these behaviors. When the amount of talking about the baby was summed across all three observations, girls talked more about their baby

siblings than boys did, $U = 12.5$, $p < .005$.

With respect to the anti-social behavior, which was very rare, again in 5 of 6 cases girls had higher frequencies than boys. None of these differences were statistically significant.

Doll play was very rare, and was never observed in any boy in this study, but the difference in this behavior, little on the part of girls and none on the part of boys, was not statistically significant.

When considering the mean frequencies of all 8 of the behaviors we observed in the older child across 3 observations, then, in 22 of 24 cases the mean frequencies were higher in girls, although these differences were rarely statistically significant. However, the Sign Test was used to determine whether it was probable that, by chance alone, in so many cases the means of girls would be higher than those of boys. The Sign Test indicated that this pattern was highly unlikely to occur by chance alone, $p < .0001$.

The behaviors were summed to produce these categories: Direct prosocial interaction (talks to baby, plays with baby and baby care); all prosocial interaction (the previous three behaviors plus talks about baby and baby chores); and the grand total of all behaviors observed. When all behaviors were summed across all observations, girls scores were significantly higher than boys, $U = 20$, $p < .03$. The same was the case for the total of all prosocial behaviors, $U = 19.5$, $p < .02$, and marginally so for all direct prosocial interaction, $U = 25$, $p = .06$.

Maternal Socialization

A second focus of this study was on the behavior of mothers toward their older sons and daughters. We observed six maternal behaviors. These behaviors were also analyzed with Mann-Whitney U. Two were requests concerning the baby: requests for prosocial interaction (to play with the baby, do a chore or care for the baby) and requests to leave the baby alone. Two more of these maternal behaviors were direct rewards of baby care or interaction on the part of the older child, and direct punishments of such interaction. These four behaviors could be classified as direct maternal socialization of baby care or nurturant behaviors. All of these behaviors were very rare; most occurred less than once per observation. There were no statistically significant differences in the frequencies of these behaviors in the mothers of girls as compared to the mothers of boys. Excluding 2 ties, in 7 of 10 cases the mothers of girls had higher mean frequencies of these behaviors than did mothers of boys. Using the Sign Test, this is not significantly different from chance.

We also observed the frequency of mothers talking to the child about the baby, in the same way we had observed the child talking to the mother about the baby. This was the most frequent maternal behavior we observed, occurring from 10 to 20 times per observation period. In all three observation periods it was more frequent in mothers of older girls, although none of the differences were statistically significant.

Finally, we also recorded any "gender-relevant" statements on the part of the mother, whether they were related to nurturant interactions or not. An example would be "Boys aren't supposed to cry", etc. The statements were very, very rare. We almost never observed them. They were so rare it would be difficult to draw any meaningful conclusions about them, other than that they were hardly ever observed.

The maternal behaviors were also totaled and not found to differ significantly between the mothers of boys and girls. The data on maternal behaviors have been summarized in Table 3.

Insert Table 3 about here

Effects of the Baby's Gender

The mother and child behaviors totalled across all observations were analyzed as a function of the baby's gender. None of these differences were statistically significant.

Correlations Among Behavioral Measures

Behavioral measures were intercorrelated using the Pearson product-moment correlation. Intercorrelations among the child's behaviors, the mother's behaviors and the mother-child combinations were all computed, both within an observation and between observations. With so many possible intercorrelations, some correlations may be significant by chance, therefore only those correlations which showed consistent patterns, occurring at least twice (e.g., during Observation 2 and Observation 3) are

reported here. There were no consistent patterns in the relationships between behaviors observed in one session and those observed in the other two sessions therefore the only significant correlations reported here are those involving behaviors observed within a single session, and found during at least two different sessions.

In all three observations the child behaviors of playing with the baby and talking to the baby were significantly correlated, $r = .87$ $p < .001$, $r = .98$ $p < .001$, and $r = .67$ $p < .001$, Observations 2, 3 and 4, respectively. In Observations 3 and 4, the child behaviors of caring for the baby and talking to the baby were significantly correlated, $r = .73$, $p < .001$, and $r = .48$, $p < .05$, respectively. In Observations 2 and 4, the child behaviors of playing with the baby and talking about the baby were significantly correlated, $r = .47$, $p < .05$, and $r = .61$, $p < .005$, respectively.

No maternal behaviors were consistently intercorrelated within sessions. There were some consistent intercorrelations of mother and child behaviors. In all three observations the mother talking about the baby and the child talking about the baby were significantly correlated, $r = .77$, $p < .001$, $r = .57$, $p < .01$, and $r = .74$, $p < .001$, respectively. In Observations 2 and 3, the maternal behavior of requesting baby care (or play, etc.) was significantly correlated with the child behavior of playing with the baby, $r = .78$, $p < .001$, and $r = .52$, $p < .05$, respectively. In Observations 2 and 3 the child behavior of hostility to the

baby and the maternal behavior of punishing interaction with the baby were significantly correlated, r = .89 p < .001, and r = .54 p < .05, respectively.

Correlations Between Maternal Ratings and Observed Behavior

Following the last observation mothers were given a questionnaire that was discussed earlier and is summarized in Table 1. Scores on these items were correlated with the observed maternal and child behaviors. Of particular interest was the relationships between comparable items, such as between maternal ratings of play and actual observed play. The items in Table 1 which have directly comparable observed behaviors are questions 5 through 10.

There were virtually no significant relationships between the maternal ratings and the comparable observed behaviors for any of the observations or for the totals of the observed behaviors summed across observations. There was only one exception. Hostile behavior to the baby during Observation 3 (but not during Observations 2 or 4 or total observed hostility) was significantly correlated with the mother's fear that the child might hurt the baby, r = .49, p < .05.

Correlations Among Questionnaire Items

There were a number of significant relationships among the items in the questionnaire. The older child's rated temperament was significantly positively correlated with the rating of the child's compliance, r = .58, p < .01, and negatively correlated with the mother's fear that the child might hurt the baby, r = -

.56, $p < .05$. The mother's rating of how often she believed the child looked after the baby and how often she requested this of the child were significantly correlated, $r = .69$, $p < .001$.

The maternal rating of amount of play with the baby and amount of baby care were significantly correlated, $r = .47$, $p < .05$. The maternal rating of the child's adjustment to the baby's birth was significantly positively correlated with the ratings of the amount of play and care, $r = .73$, $p < .001$, and $r = .60$, $p < .005$, and negatively correlated with fear that the child might hurt the baby, $r = -.44$, $p < .05$. Fear of the child hurting the baby was also significantly positively correlated with the mother's rating of how often she believed she kept the child away from the baby, $r = .77$, $p < .001$, and negatively correlated with the mother's rating of the child's compliance, $r = -.48$, $p < .05$.

Presence of Observers

We asked the mothers how the observers presence might have affected their and the children's behavior. All stated the infant was not affected, and that the older child was most affected during the first observation, the data from which are not reported. Many mothers said their older child was unaffected and behaved much as usual, especially with the baby. Several mothers, but not all, stated that they were quite uncomfortable being observed, and were affected by our presence.

A very common comment was that the family was much more likely to stay in one room than otherwise, and that the older child would normally have been outdoors more. Obviously these

considerations would likely increase interaction between the siblings over the typical amount, but aren't necessarily likely to affect the particular behaviors engaged in, or the affect of gender.

Discussion

In this study gender differences in children's nurturant interactions toward their infant siblings were a major focus. Previous research studying similar sibling interactions in the home in the mother's presence had produced inconsistent reports of gender differences (Abramovitch, Corter & Lando, 1979; Abramovitch, Corter & Pepler, 1980; Dunn & Kendrick, 1981; Lamb, 1978a; 1978b). In this study girls were found to talk significantly more about the baby and to direct more prosocial behaviors (playing, talking, caring for) to the baby. When all behaviors that could be said to measure a nurturant interest in the baby were totalled across all observations, girls had significantly higher scores, and the same was true for the total of all behaviors observed, including antisocial behaviors and doll play. These latter two categories were very rare, and contributed little to the total.

The second major focus of this study was maternal socialization. We were hoping to examine possible socialization influences on childhood gender differences in interactions with infants. Almost all of the direct socialization behaviors were quite infrequent. Mothers asked their children to play with the baby, care for or do a chore for the baby approximately two or

three times during each observation period. They directly rewarded or punished interactions with the baby less than once per observation period. There was no evidence that they did so more with either gender. These findings provide virtually no evidence that direct maternal socialization is at the root of childhood gender differences in interactions with infants.

We also examined gender-differentiated statements on the mother's part. These would be such statements as "Boys don't do that.", etc. Again there was very little evidence of this type of gender role socialization taking place.

A much more frequent maternal behavior was talking about the baby to the child. During all three observations, the mean frequencies of mothers of older girls talking about the baby were higher than the mothers of older boys, but not significantly. As reported above, the girls themselves talked more about the baby than boys did. During all three observations these behaviors were highly significantly correlated. It is reasonable to conclude that when one member of the mother/older sibling dyad talked a lot about the baby, so did the other member, and that this tended to happen somewhat more frequently in the case of older girls than older boys. However, it cannot be determined whether mothers are attempting to involve their daughters with the baby through these conversations, or whether they are simply responding to more interest on the part of daughters.

There were a few other significant correlations between maternal and child behaviors, suggesting a pattern of

socialization that depended on the child's behavior or the mother's desire to meet the baby's needs, rather than depending on the older child's gender. For example, there were significant correlations between the mother's requesting baby care or play from the older child, and the child playing with the baby, and between the child's hostility to the baby and the mother's punishing interaction by the child with the baby.

We also observed playing with dolls. It is possible that by playing with dolls, girls learn to care for babies in adulthood. These data suggest that is unlikely. We found very little doll play, albeit all of it was in girls. Most of it was not at all like baby care. For example, fixing a Barbie doll's hair was more likely than pretending to feed a baby. We never once saw a daughter imitating her mother's care of the baby with a doll.

There were a number of other findings from this study which were unrelated to the issue of gender. Several of the older sibling's nurturant behaviors were consistently intercorrelated. These correlations indicate that children who played more with the baby also talked more with and about the baby and demonstrated more baby care. These findings are perfectly reasonable and suggest that the separate behaviors represent a consistent pattern of interest in the baby.

The mothers filled out a questionnaire following the last observation. There were a number of significant relationships among the items on this questionnaire. For example, mothers who believed their older child had a more pleasant temperament, also

believed that he or she was compliant, and was unlikely to hurt the baby. These correlations clearly indicated a consistent pattern in the mothers' answers to the questionnaire, for they all make very good sense.

However, there were virtually no relationships between the mothers' ratings of their children's behavior and the actual behavior observed. There are two implications to this finding. One, mothers are apparently not very good judges of the extent to which their children interact with their siblings compared to interaction that takes place in other families. That isn't necessarily surprising since mothers rarely see interactions between other sibling pairs in the home. The second implication is more serious to the researcher because it concerns the use of maternal ratings as an estimate of child behavior. Researchers may be tempted simply to ask parents how often their child engages in some behavior, rather than measuring it themselves. At least one study has done exactly this to measure degree of interest in babies (Melson, Fogel & Toda, 1987). The findings of the present research suggest caution in interpretation of maternal ratings measures, and a recognition that they may not produce the same findings as actual observation of the child's behavior.

Conclusions and Future Directions

In this study children's nurturant interactions with their infant siblings and maternal socialization of that nurturance were examined. The first focus of the research was to further

explore gender differences in interaction with infant siblings in the home. Girls did demonstrate more nurturant interaction with and interest in their baby siblings than boys did.

A second focus of the study was on possible maternal socialization of baby care in girls as opposed to boys. The observations indicated that mothers were rarely directly socializing such behaviors in their children, either boys or girls. Also, there was virtually no indication that they were socializing baby care behaviors in their daughters more than in their sons. If mothers are the socialization agents shaping this behavior, then they are doing it in more subtle ways than we were measuring.

The finding remains, however, that in the late preschool period this behavioral gender difference is emerging. If direct maternal socialization does not account for it, what does? At this time, it might be more appropriate to examine other possible influences, such as the child's own cognitions about the appropriateness of engaging in baby care.

References

Abramovitch, R., Corter, C., & Lando, B. (1979) Sibling interaction in the home. Child Development, 50, 997-1003.

Abramovitch, R., Corter, C., & Pepler, D. (1980) Observation of mixed-sex sibling dyads. Child Development, 51, 1268-1271.

Ainsworth, M. D. S., & Wittig, B. A. (1969) Attachment and exploratory behavior of one-year-olds in a strange situation. In B. M. Foss (Ed.), Determinants of infant behavior. (Vol. 4). New York: Wiley.

Belsky, J., Gilstrap, B., & Rovine, M. (1984) The Pennsylvania infant and family development project I: Stability and change in mother-infant and father-infant interaction in a family setting at one, three, and nine months. Child Development, 55, 692-705.

Berman, P. (1983, April) Children's nurturance to younger children: Age, sex and the situation. Paper presented as part of a symposium at the biennial meeting of the Society for Research in Child Development, Detroit, MI.

Berman, P.W., & Goodman, V. (1984) Age and sex differences in children's responses to babies: Effects of adult's caretaking requests and instructions. Child Development, 55, 1071-1077.

Berman, P.W., Monda, L.C., & Myerscough, R.P. (1977) Sex differences in young children's responses to an infant: An observation within a day-care setting. Child Development, 48, 711-715.

Berman, P.W., Smith, V.L., & Goodman, V. (1983) Development of

sex differences in response to an infant and to the caretaker role. Journal of Genetic Psychology, 143, 283-284.

Blakemore, J.E.O. (1981) Age and sex differences in interaction with a human infant. Child Development, 52, 386-388.

Blakemore, J.E.O. (1983, April) Interaction with an infant by preschoolers: An attempt to modify the sex difference. Paper presented at the biennial meeting of the Society for Research in Child Development, Detroit, MI.

Blakemore, J.E.O. (1985) Interaction with a baby by young adults: A comparison of traditional and feminist men and women. Sex Roles, 13, 405-411.

Cahill, S.E. (1983) Reexamining the acquisition of sex-roles: A social interactionist approach. Sex Roles, 9, 1-15.

Constantinople, A. (1979) Sex-role acquisition: In search of the elephant. Sex Roles, 5, 121-133.

Clarke-Stewart, K. A. (1978) And daddy makes three: The father's impact on the mother and young child. Child Development, 44, 466-478.

Dunn, J. & Kendrick, C. (1981) Interactions between young siblings: Associations with interaction between mother and firstborn child. Developmental Psychology, 17, 336-343.

Feldman, S. S., & Nash, S. C. (1978) Interest in babies during young adulthood. Child Development, 49, 617-622.

Feldman, S. S., & Nash, S. C. (1979a) Changes in responsiveness to babies during adolescence. Child Development, 50, 942-949.

Feldman, S. S., & Nash, S. C. (1979b) Sex differences in

responsiveness to babies among mature adults. Developmental Psychology, 15, 430-436.

Feldman, S. S., Nash, S. C., & Cutrona, C. (1977) The influence of age and sex on responsiveness to babies. Developmental Psychology, 13, 675-676.

Frodi, A.M., & Lamb, M. E. (1978) Sex differences in responsiveness to infants: A developmental study of psychophysiological and behavioral responses. Child Development, 49, 1182-1188.

Frodi, A.M., Lamb, M.E., Hwang, C.P., & Frodi, M. (1982) Father mother-infant interaction in traditional and nontraditional Swedish families: A longitudinal study. Alternative Lifestyles, 4, 6-13.

Hutt, C. (1972) Sex differences in human development. Human Development, 15, 153-170.

Lamb, M. (1976) Twelve-month-olds and their parents: Interactions in a laboratory playroom. Developmental Psychology, 12, 237-244.

Lamb, M. (1977) Father-infant and mother-infant interaction in the first year of life. Child Development, 48, 167-181.

Lamb, M. (1978a) Interactions between 18-month-olds and their preschool-aged siblings. Child Development, 49, 51-59.

Lamb, M. (1978b) The development of sibling relationships in infancy: A short-term longitudinal study. Child Development, 49, 1189-1196.

Melson, G. F., & Fogel, A. (1982) Young children's interest in

unfamiliar infants. Child Development, 53, 693-700.

Melson, G. F., Fogel, A., & Toda, S. (1987, April) Babies and pets: Age and sex differences in expressions of nurturance. Paper presented at the biennial meeting of the Society for Research in Child Development, Baltimore, MD.

Nash, S. C., & Feldman, S. S. (1980) Responsiveness to babies: Life situation specific sex differences in adulthood. Sex Roles, 6, 751-758.

Nash, S. C., & Feldman, S. S. (1981a) Sex-role and sex-related attributions: Constancy and change across the life cycle. In M. E. Lamb & A. L. Brown (Eds.), Advances in developmental psychology. Hillsdale, N.J.: Lawrence Erlbaum Associates.

Nash, S. C., & Feldman, S. S. (1981b) Sex-related differences in the relationship between sibling status and responsivity to babies. Sex Roles, 10, 1035-1042.

Parke, R. D. (1978) Perspectives on father-infant interaction. In J. D. Osofsky (Ed.), Handbook of infant development. New York: Wiley.

Parke, R. D., & O'Leary, S. (1976) Family interaction in the newborn period: Some findings, some observations and some unresolved issues. In K. Reigel & J. Meacham (Eds.), The developing individual in a changing world. (Vol. 2): Social and environmental issues. The Hague: Mouton.

Parke, R. D., & Tinsley, B. (1981) The father's role in infancy: Determinants in caregiving and play. In M. Lamb (Ed.), The role of the father in child development. (2nd. ed.). New York:

Wiley.

Rossi, A. (1985) Gender and parenthood. In A. Rossi (Ed.), Gender and the life course. Hawthorne, N.Y.: Aldine Publishing Co.

Stewart, R. B. (1983) Sibling attachment relationships: Child-infant interactions in the strange situation. Developmental Psychology, 19, 192-199.

Yogman, M. W. (1982)Development of the father-infant relationship. In H. Fitzgerald, B. Lester, & M. W. Yogman (Eds.), Theory and research in behavioral pediatrics. (Vol. 1). New York: Plenum.

Zahn-Waxler, C., Friedman, S. L., & Cummings, E. M. (1983) Children's emotions and behaviors in response to infant cries. Child Development, 54, 1522-1528.

Table 1

Questionnaire Items Concerning Children's Characteristics and Interactions

1. How would you characterize your older child's temperament?
2. How compliant is your older child?
3. How would you characterize your baby's temperament?
4. How well do you think your older child has adjusted to the birth of the baby?
5. How often does your older child play with the baby?
6. Do you encourage your older child to play with the baby?
7. How often does your older child help out with, or look after the baby?
8. Do you encourage your older child to help out with the baby?
9. Do you try to keep your older child away from the baby?
10. Are you afraid your older child might hurt the baby?
11. How do you think that the observers' presence affected your (and the children's) behavior?

Note. Items 1 through 10 were rated with 5-point scales. Item 11 was open-ended.

Table 2

Mean Frequencies of Older Sibling's Behavior as a Function of Gender

Behavior	Observation 2		3		4		Total	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Baby Care	6.9	7.3	6.0	12.1	5.9	8.0	18.8	27.4
Play with Baby	14.4	18.9	18.4	29.7	15.1	18.6	48.0	67.2
Talk to Baby	20.4	20.6	18.8	34.7	20.4	25.9	59.6	81.2
Baby Chores	.8	2.0	.7	2.5	2.4	1.6	3.9	6.1
Talk about Baby	8.9	15.2	5.9	11.8	8.8	16.5	[b]23.6	43.5
Refuse to Interact	0.0	.4	.1	.3	0.0	.1	.1	.8
Hostility	.2	3.0	.8	1.5	2.0	1.9	3.0	6.4
Doll Play	0.0	6.8	0.0	.4	0.0	.3	0.0	7.5
Total Direct Prosocial	41.8	46.8	43.2	76.5	41.4	52.5	[a]126.4	175.8
Total Prosocial	51.5	64.0	49.8	90.8	52.6	70.6	[c]153.9	225.4
TOTAL	51.7	74.2	50.7	93.0	54.6	72.9	[c]157.0	240.1

[a] $p = .06$, Mann-Whitney U

[b] $p < .005$, Mann-Whitney U

[c] $p < .03$, Mann-Whitney U

Table 3

Mean Frequencies of Mother's Behavior as a Function of Older Child's Gender

Behavior	Observation 2		3		4		Total	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Baby Care[a]	2.9	2.1	3.1	3.5	2.1	3.1	8.1	8.7
Leave Baby Alone[a]	.1	1.4	.7	.9	.3	.3	1.1	2.6
Reward	.4	0.0	.1	.3	0.0	.3	.5	.6
Punish	0.0	.1	.2	.1	0.0	0.0	.2	.2
Talk about Baby	14.8	20.4	10.9	16.0	12.7	19.7	38.4	56.1
Gender Statement	.5	.1	0.0	0.0	.3	.1	.8	.2
TOTAL	18.7	24.1	15.0	20.8	15.4	23.5	49.1	68.4

[a]These were maternal requests